WHAT IS CLAIMED IS:

1. A color optical link using a transparently jacketed plastic optical fiber, comprising:

a plurality of the light sources for emitting light having different wavelengths in order to output ~~the~~ a plurality of optical signals;

a first driver for receiving digital or analog signals and a coloring signal in parallel and converting the received signals into the plurality of optical signals through ~~a~~ said plurality of light sources;

a first POF coupler for inputting ~~a~~ the plurality of the optical signals received from ~~a~~ the plurality of the light sources into the transparently jacketed plastic optical fiber;

the transparently jacketed plastic optical fiber having one end connected to the first POF coupler and the other end connected to a second POF coupler~~;~~ ,

said ~~the~~ second POF coupler being provided for separating the optical signal transmitted from the transparently jacketed plastic optical fiber into a plurality of optical signals and respectively inputting the optical signals into a plurality of optical detectors~~;~~ , said ~~a~~ plurality of the optical detectors respectively having filters for separating the received optical signal into a plurality of signals according to wavelengths; and

a second driver for receiving the optical signals from the optical detectors and converting the receiving optical signals into electrical signals.

2. The color optical link as set forth in claim 1,

wherein the number of the light sources is the same as the number of electrical signals inputted in parallel into the first driver.

3. The color optical link as set forth in claim 1,

wherein LEDs are used as ~~a~~ the plurality of ~~the~~ light sources at ~~a~~ low speed, and LDs, RCLEDs or VSCELs are used as ~~a~~ the plurality of the light sources at ~~a~~ high speed.

4. The color optical link as set forth in claim 1,

wherein the first and second POF couplers serve to input and output a plurality of optical signals to and from the light sources, and are designed such that a plurality of optical fibers for transmitting the ~~plural~~ plurality of optical signals are polished and bound ~~in~~ into an optical fiber unit so that the optical fibers are uniformly arranged along a circumference of the optical fiber unit, thus inputting and outputting the ~~plural~~ plurality of optical signals in parallel to and from the transparently jacketed plastic optical fiber.

5. The color optical link as set forth in claim 4,

wherein the optical fiber unit has a diameter larger than that of the transparently jacketed plastic optical fiber in order to improve coupling efficiency.

6. The color optical link as set forth in claim 4,

wherein the optical fibers are attached to each other using a material having a refractivity lower than that of a core of the optical fibers so as to minimize crosstalk between the plurality of optical fibers, and the

optical fibers for transmitting the plurality of optical signals are polished and bound so that the optical fibers are uniformly arranged along the periphery of the optical fiber unit.

7. The color optical link as set forth in claim 1,

wherein the transparently jacketed plastic optical fiber includes a plastic optical fiber having a high optical loss so as to emit a large amount of light to the outside when the transparently jacketed plastic optical fiber has a short transmission distance.

8. The color optical link as set forth in claim 1,

wherein the transparent jacket of the transparently jacketed plastic optical fiber is coated on a naked plastic optical fiber by a post jacketing method so as to prevent the plastic optical fiber from damage from thermal stress generated in jacketing the naked plastic optical fiber.

9. The color optical link as set forth in claim 1,

wherein a contact area between the transparent jacket and the naked plastic optical fiber of the transparently jacketed plastic optical fiber has a cycle or pattern so that light is emitted periodically or in pattern.

10. The color optical link as set forth in claim 1,

wherein the first driver employs a means for varying the total intensity of the signals or a means for offsetting the signals in order to achieve coloring.

11. The color optical link as set forth in claim 1,

wherein coloring is varied by the coloring signal inputted into the first driver.

12. A method for achieving a color optical link using a transparently jacketed plastic optical fiber, comprising the steps of:

(a) providing digital or analog signals and a coloring signal in parallel and converting said signals into optical signals through a plurality of light sources;

(b) coupling optical signals transmitted from a plurality of the light sources into a single strand using a first POF coupler so that the optical signals are transmitted through the transparently jacketed plastic optical fiber;

(c) emitting light corresponding to ~~an~~ the optical loss~~,~~ occurring when the optical signals from a plurality of the light sources are transmitted through the transparently jacketed plastic optical fiber~~,~~ to the outside through a transparent jacket coated on naked plastic optical fiber of the transparently jacketed plastic optical fiber;

(d) separating the optical signals, transmitted through the transparently jacketed plastic optical fiber, using a second POF coupler;

(e) detecting a desired signal from the optical signals separated through the second POF coupler using optical detectors; and

(f) converting the detected optical signals into electric signals through a second driver.